Name : Aqyiqin (23)

Class : 3C3

Date 12 Nov. 08

Maths D Holiday HW

Algebra 3.1 P1

1a. $x=2, y=-3$

$5x-4y=5(2)-4(-3)$

$=22$ ✱

b. $xy^2=2\times(-3)^2$

$=18$ ✱

12a. $a=3, b=2, c=-4$

$8b-ac=8(2)-(3)(-4)$

$=28$ ✱

b. $2a^2=2\times3^2$

$=18$ ✱

13 $x, x+1, x+3$

Sum of even nos $=(x+1)+(x+3)$

$=2x+4$ ✱

14a. $\frac{3}{x}=4$

$x=\frac{3}{4}$ ✱

b. $5y-3(y-1)=23$

$5y-3y+3=23$

$2y=20$

$\therefore y=10$ ✱

15. $3=\frac{3}{t-2}$

$3=3(t-2)$

$3=3t-28$

$3t=3+28$

$t=\frac{3+28}{3}$ ✱

16a. $h=\frac{3y^2}{8g}$

$\approx\frac{3\times11^2}{8\times10}$

$=\frac{5043}{80}$

$=63$ ✱

b. $h=\frac{3y^2}{8g}$

$3y^2=8hg$

$y^2=\frac{8hg}{3}$

$y=\pm\sqrt{\frac{8hg}{3}}$ ✱

17a. $2x-5y-2(x-3y)$

$=2x-5y-2x+6y$

$=y$ ✱

b. $3p^2+4$

$=3(-2)^2+4$

$=12+4$

$=16$ ✱

18i. 2^n-n^2, $n=0$

$=1$ ✱

ii. 2^n-n^2, $n=3$

$=2^3\cdot3^2$

$=8-9$

$=-1$ ✱

19a. $2x-y$

$=2(5)-(-8)$

$=10+8$

$=18$ ✱

b. $\sqrt[3]{y}$

$=\sqrt[3]{-8}$

$=-2$ ✱

20a(i). $\pi r^2 + \pi r l$

$= \pi r(r + l)$ #

a(ii). $A = \pi r^2 + \pi r l$

$\pi r l = A - \pi r^2$

$l = \frac{A - \pi r^2}{\pi r}$ #

b. Alan's share = $\$\left(\frac{5x}{x+2}\right)$ #

Paper 2

6. $T_2 = T_1 \times 3\sqrt{m^2}$

$= 20 \times 3\sqrt{2.5^2}$

$= 36.8403\ldots$

$= 36.8$ (3SF) #

7a. $2p - 5 = 4 - 3(p+2)$

$2p - 5 = 4 - 3p - 6$

$5p = 3$

$p = \frac{3}{5}$ #

b. $y = \frac{A + 2x}{x}$

$A + 2x = xy$

$xy - 2x = A$

$(y-2)x = A$

$\therefore x = \frac{A}{y-2}$ #

c(i). cost $= \$[0.50 + (0.15 \times 11)]$

$= \$2.15$ #

c(ii). $C = 15n + 50$ #

c(iii). Greatest no of words $= \frac{\$3.00 - \$0.50}{\$0.15}$

$= 16.66\ldots$

$= 16$ #

8a. $\frac{4}{3r-2} - \frac{3}{r+5}$

$= \frac{4(r+5) - 3(3r-2)}{(3r-2)(r+5)}$

$= \frac{4r + 20 - 9r + 6}{(3r-2)(r+5)}$

$= \frac{26 - 5r}{(3r-2)(r+5)}$ #

b. $\frac{a}{a+2} - b$

$a = ab + 2b$

$a - ab = 2b$

$(1-b)a = 2b$

$\therefore a = \frac{2b}{1-b}$ #

9(i)(a). Bob's age $= (n+9)$ yrs old #

(b). Mother's age $= 3n$ yrs old #

(c). Father's age $= 2(n+9)$ yrs old #

9(ii)(a). $n + (n+9) + 3n + 2(n+9) = 139$

$7n + 27 = 139$

$7n = 112$ #

(b) $n = \frac{112}{7}$

$= 16$ #

(c) Mother's age $= (3 \times 16) - (16 + 9)$

$= 23$ yrs old #

10. $y = \frac{t+a}{t-b}$

$t + a = ty - by$

$t - ty = -by - a$

$(1-y)t = -by - a$

$\therefore t = \frac{-by - a}{1-y}$

$= \frac{-(by+a)}{-(-1+y)}$

$= \frac{a+by}{y-1}$ #